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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In Re Application of:

Brian R. Murphy et al.

Serial No.: 09/083,793

Group Art Unit: 1648

Filing Date: May 22, 1998

Examiner: M. Mosher

For: PRODUCTION OF ATTENUATED PARAINFLUENZA VIRUS VACCINES
FROM CLONED NUCLEOTIDE SEQUENCES

DATE OF DEPOSIT: 4/12/2002

I HEREBY CERTIFY THAT THIS PAPER IS BEING
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TYPED NAME: Jeffrey J. King
REGISTRATION NO.: 38,515

BOX DSD
Commissioner for Patents
Washington, DC 20231

**ESTABLISHMENT OF RIGHT OF ASSIGNEE TO TAKE ACTION
AND
REVOCATION AND POWER OF ATTORNEY**

Dear Sir:

The undersigned is empowered to act on behalf of the assignee below (the
"Assignee"). The original assignment was recorded in the Patent and Trademark Office
on July 10, 1998 at Reel 9330, Frames 0754-0758. A copy of that submission is attached.
This Assignment represents the entire chain of title of this invention from the Inventors
Brian R. Murphy; Peter L. Collins; Anna P. Durbin; Mario H. Skiadopoulos; and Tao Tao
to the Assignee.

I declare that all statements made herein are true, and that all statements made
upon information and belief are believed to be true, and further, that these statements
were made with the knowledge that willful, false statements and the like so made are
punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and that willful,

false statements may jeopardize the validity of the application, or any patent issuing thereon.

The undersigned hereby revokes any previous powers of attorney in the subject application, and hereby appoints the below listed registrants of National Institutes of Health Offices of Technology Transfer, 6011 Executive Boulevard, Suite 325, Rockville, MD 20852, telephone (301) 496-7056, as its agents and attorneys with full power of substitution and revocation to prosecute this application and to transact all business in the U.S. Patent and Trademark Office connected herewith. This appointment is to be to the exclusion of the inventor(s) and his/her/their attorney(s) in accordance with the provisions of 37 C.F.R. § 3.71.

<u>James C. Haight</u>	Reg. No. <u>25,588</u>
<u>David R. Sadowski</u>	Reg. No. <u>32,808</u>
<u>Jack Spiegel</u>	Reg. No. <u>34,477</u>
<u>Susan S. Rucker</u>	Reg. No. <u>35,762</u>
<u>Stephen Finley</u>	Reg. No. <u>36,357</u>
<u>Steven Ferguson</u>	Reg. No. <u>38,488</u>
<u>John Peter Kim</u>	Reg. No. <u>38,514</u>
<u>Norbert Pontzer</u>	Reg. No. <u>40,777</u>
<u>Richard U. Rodriguez</u>	Reg. No. <u>45,980</u>
<u>Marlene Shinn</u>	Reg. No. <u>46,005</u>
<u>Dale Berkley</u>	Reg. No. <u>32,319</u>
<u>Catherine M. Joyce</u>	Reg. No. <u>40,668</u>

The National Institutes of Health Office of Technology Transfer has been duly delegated responsibility for such patent matters under the authority of the Department of Health and Human Services Secretary Louis W. Sullivan's May 21, 1991, memorandum appearing in the Friday, June 7, 1991, Federal Register Notices at Vol. 56, No. 110, pp. 26418-26419. The undersigned is authorized to exercise such authority in this matter.

Done on this 11 day of MARCH, 2002, at Rockville, Maryland.

UNITED STATES DEPARTMENT OF
HEALTH AND HUMAN SERVICES

By: Jack Spiegel

Printed Name: JACK SPIEGEL

Registration No.: 34,477

for: Dr. Jack Spiegel, Director, OTDT
Office of Technology Transfer
National Institutes of Health
6011 Executive Boulevard, Suite 325
Rockville, MD 20852
Telephone (301) 496-7056
Facsimile (301) 402-0220

DHHS CASE NO. E-089-97/0



017634-000320-1

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SUP/17/11/12

OCTOBER 06, 1998

PTAS
TOWNSEND AND TOWNSEND AND CREW LLP
JEFFREY J. KING
TWO EMBARCADERO CENTER, 8TH FLOOR
SAN FRANCISCO, CALIFORNIA 94111-3834



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UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 07/10/1998

REEL/FRAME: 9330/0754
NUMBER OF PAGES: 5

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

MURPHY, BRIAN R.

DOC DATE: 07/01/1998

ASSIGNOR:

COLLINS, PETER L.

DOC DATE: 07/01/1998

ASSIGNOR:

DURBIN, ANNA P.

DOC DATE: 07/01/1998

ASSIGNOR:

SKIADOPOULOS, MARIO H.

DOC DATE: 07/01/1998

ASSIGNOR:

TAO, TAO

DOC DATE: 07/01/1998

ASSIGNEE:

HEALTH AND HUMAN SERVICES,
GOVERNMENT OF THE UNITED STATES
OF AMERICA, THE, AS REPRESENTED
BY THE DEPARTMENT OF
6011 EXECUTIVE BOULEVARD, SUITE
325
ROCKVILLE, MARYLAND 20852

SERIAL NUMBER: 09083793
PATENT NUMBER:

FILING DATE: 05/22/1998
ISSUE DATE:

SHIRLIE SIMON, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

07-24-1998

Attorney Docket No. 17634-000320

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

To the Honorable Asst. Commissioner for Patents

100774029

documents or copy thereof.

1. Name of conveying parties:

- (a) Brian R. Murphy
(b) Peter L. Collins
(c) Anna P. Durbin
(d) Mario H. Skiadopoulos
(e) Tao Tao

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

2. Name and address of receiving party(ies):

Name: The Government of the United States of America, as represented by the Department of Health and Human Services

Internal Address:

Street Address: 6011 Executive Boulevard, Suite 325

City: Rockville State: Maryland ZIP: 20852

Additional name(s) & address(es) attached? ☐ Yes ☒ No

3. Nature of conveyance:

- ☒ Assignment ☐ Merger
☐ Security Agreement ☐ Change of Name
☐ Other:

Execution Date: (a) 7/1/98; (b) 7/1/98; (c) 7/1/98;
(d) 7/1/98; (e) 7/1/98

4. Application number(s) or patent number(s).

If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s) 09/083,793

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Jeffrey J. King
TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, 8th Floor
San Francisco, California 94111-3834
(206) 467-9600

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41):..... \$ 40

- ☐ Enclosed ☒ Charge Fees to Deposit Account
☒ Charge any additional fees associated with this paper or during the pendency of this application, or credit any overpayment, to deposit account

8. Deposit account number: 20-1430

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9. Statement and signature.

*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*Jeffrey J. King
Name of Person Signing

Signature

July 7, 1998
Date

Atty. Reg. No. 38,515

Total number of pages including cover sheet, attachments, and document: 5

10. Change Correspondence Address to that of Part 5? ☐ Yes ☒ No

OMB No. 0651-0011 (exp. 4/94)

Mail documents to be recorded with required cover sheet information to:
Do not detach this portion
Asst. Commissioner for Patents
Box Assignments
Washington, D.C. 20231

ASSIGNMENT OF PATENT APPLICATION

JOINT

WHEREAS, BRIAN R. MURPHY of 5410 Tuscarawas Road, Bethesda, Maryland 20816, PETER L. COLLINS of 12304 Village Square, Apt. 401, Rockville, Maryland 20852, ANNA P. DURBIN of 19440 St. Johnsbury Lane, Germantown, Maryland 20874, MARIO H. SKIADOPOULOS of 8303 Aqueduct Road, Potomac, Maryland 20854, and TAO TAO of 10684 Weymouth Street #104, Bethesda, Maryland 20814, hereinafter referred to as "Assignors," are the inventors of the invention described and set forth in the below identified application for United States Letters Patent:

Title of the Invention: PRODUCTION OF ATTENUATED PARAINFLUENZA VIRUS VACCINES FROM CLONED NUCLEOTIDE SEQUENCES

Filing date: May 22, 1998 Application No.: 09/083,793; and

WHEREAS, THE GOVERNMENT OF THE UNITED STATES OF AMERICA, as represented by the Department of Health and Human Services a corporation, located at 6011 Executive Boulevard, Suite 325, Rockville, Maryland 20852, hereinafter referred to as "Assignee," is desirous of acquiring an interest in the invention and application and in any Letters Patent and Registrations which may be granted on the same;

For good and valuable consideration, receipt of which is hereby acknowledged by Assignors, Assignors have assigned, and by these presents do assign to Assignee all right, title and interest in and to the invention and application and to all foreign counterparts (including patent, utility model and industrial designs), and in and to any Letters Patent and Registrations which may hereafter be granted on the same in the United States and all countries throughout the world, and to claim the priority from the application as provided by the Paris Convention. The right, title and interest is to be held and enjoyed by Assignee and Assignee's successors and assigns as fully and exclusively as it would have been held and enjoyed by Assignors had this assignment not been made, for the full term of any Letters Patent and Registrations which may be granted thereon, or of any division, renewal, continuation in whole or in part, substitution, conversion, reissue, prolongation or extension thereof.

Assignors further agree that they will, without charge to Assignee, but at Assignee's expense, (a) cooperate with Assignee in the prosecution of U.S. Patent applications and foreign counterparts on the invention and any improvements, (b) execute, verify, acknowledge and deliver all such further papers, including patent applications and instruments of transfer and (c) perform such other acts as Assignee lawfully may request to obtain or maintain Letters Patent and Registrations for the invention and improvements in any and all countries, and to vest title thereto in Assignee, or Assignee's successors and assigns.

IN TESTIMONY WHEREOF, Assignors have signed their names on the dates indicated.

Date: 7/1/98


Brian R. Murphy

STATE OF MARYLAND

COUNTY OF Montgomery

On 07/01/98, before me, Joan D. Sutton (insert name of notary public), personally appeared BRIAN R. MURPHY, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, execute the instrument.

WITNESS my hand and official seal.

JOAN D. SUTTON
NOTARY PUBLIC STATE OF MARYLAND
My Commission Expires September 7, 1999

Signature Joan D. Sutton (Seal)

Date: 7/1/98

Peter L. Collins
Peter L. Collins

STATE OF MARYLAND

COUNTY OF Montgomery

On 07/01/98, before me, Joan D. Sutton (insert name of notary public), personally appeared PETER L. COLLINS, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, execute the instrument.

WITNESS my hand and official seal.

Signature Joan D. Sutton (Seal)

JOAN D. SUTTON
NOTARY PUBLIC STATE OF MARYLAND
My Commission Expires September 7, 1999

Date: 7/1/98

Anna P. Durbin
Anna P. Durbin

STATE OF MARYLAND

COUNTY OF Montgomery

On 07/01/98, before me, Joan D. Sutton (insert name of notary public), personally appeared ANNA P. DURBIN, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the instrument the person, or the entity upon behalf of which the person acted, execute the instrument.

WITNESS my hand and official seal.

Signature Joan D. Sutton (Seal)

JOAN D. SUTTON
NOTARY PUBLIC STATE OF MARYLAND
My Commission Expires September 7, 1999

Date: 07/01/98

Mario H. Skiadopoulou
Mario H. Skiadopoulos

STATE OF MARYLAND

COUNTY OF Montgomery

On 07/01/98, before me, Joan D. Sutton (insert name of notary public), personally appeared MARIO H. SKIADOPOULOS, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, execute the instrument.

WITNESS my hand and official seal.

Signature Joan D. Sutton (Seal)

JOAN D. SUTTON
NOTARY PUBLIC STATE OF MARYLAND
My Commission Expires September 7, 1999

Date: _____

7/11/98

Tao Tao

STATE OF MARYLAND

COUNTY OF

Montgomery

On 07/01/98, before me, Joan D. Sutton (insert name of notary public), personally appeared TAO TAO, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, execute the instrument.

WITNESS my hand and official seal.

Signature

Joan D. Sutton (Seal)

JOAN D. SUTTON
NOTARY PUBLIC STATE OF MARYLAND
My Commission Expires September 7, 1999

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Brian R. Murphy et al.

Serial No.: 09/083,793

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CLONED NUCLEOTIDE SEQUENCESRECEIVED
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02 APR 16 PM 1:50Commissioner for Patents
Washington, DC 20231ASSOCIATE POWER OF ATTORNEY

Sir:

The undersigned attorney of record, pursuant to the provisions of 37 C.F.R. §§ 1.33 and 1.34, and M.P.E.P. §402.02, hereby appoints the registrants of Woodcock Washburn LLP, One Liberty Place, 46th Floor, Philadelphia, Pennsylvania 19103, telephone (215) 568-3100, as its agents and attorneys to prosecute this application and to transact all business in the U.S. Patent and Trademark Office connected herewith.

Done on this 11 day of MARCH, 2002, at Rockville, Maryland.UNITED STATES DEPARTMENT OF HEALTH
AND HUMAN SERVICESBy: Jack SpiegelPrinted Name: Jack SpiegelRegistration No.: 34,477for: Dr. Jack Spiegel, Director, DDT
Office of Technology Transfer
National Institutes of Health
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Rockville, MD 20852
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DHHS CASE NO. E-089-97/0

54872-1